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**Dr. S. Monckton Copeman's Report to the
Local Government Board on an Outbreak of Epidemic Skin
Disease in the Enfield Workhouse of the Edmonton Union.**

R. THORNE THORNE,
Medical Officer,
March 14th, 1896.

IN consequence of a report received from the Medical Officer to the Enfield Workhouse to the effect that an outbreak of skin disease, apparently similar to those which have recently occurred in several of the Metropolitan workhouse infirmaries, had broken out in the institution under his charge, I received instructions from the Board to visit the workhouse and to investigate the circumstances of the outbreak. I found that at the date of my visit 26 cases had come under treatment, of which the first was detected on the 9th April of the present year (1895). I further found that there was no special "infirmery" in connexion with this workhouse, all the inmates being more or less infirm, but that one small block and two or three other wards were set apart for such cases as were specially ill.

At the date of the occurrence of the first case of this disease, the inmates of the establishment numbered 158, of whom 92 were of this special class.

In the first place I visited the various wards, accompanied by the Medical Officer, Dr. Collyer, with a view to examine the cases which at the time were under treatment, and to satisfy myself that they were really of a similar nature to those which I had previously met with in other Poor-law institutions.

As the result of such visit, I have no doubt that the malady from which the patients were suffering was that which, in my former report, has been spoken of as "epidemic skin disease."

I learnt from the Medical Officer that the onset of the disease was very uniform in the several cases, gastric symptoms—including a coated tongue, nausea, loss of appetite, and in some cases actual vomiting—having preceded, by a longer or shorter interval, the appearance of the rash. The rash itself appeared in every instance to have been preceded by irritation, and a sense of heat and tingling of that portion of the skin whereon the rash subsequently appeared. The subjective symptoms subsided slightly before the rash itself appeared. In most instances the rash first appeared on the arms and hands, soon, however, manifesting itself on other portions of the body. In some few cases only, the rash commenced on the head about the temporal

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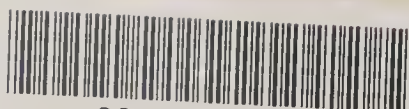
regions, and gradually extended thence over the limbs and trunk. In yet a few other cases the disease made its first appearance on the soles of the feet. In the further progress of the cases the same distinction was noticeable between a "moist" and "dry" variety as had been witnessed in previous outbreaks of the malady. In a large proportion of the cases the rash was followed after a longer or shorter period by copious desquamation. Unfortunately, however, no clinical notes or temperature charts had been kept, so that it was impossible to say in any instance whether the onset of the disease had been accompanied by pyrexia or other special symptoms.

Cause of the Outbreak.

As in my former investigations, I made inquiries into the circumstances, not only of the persons who had suffered attack by the disease but also of those other persons living in the house who had not become attacked, in order to find out if possible the cause or causes which had brought about the epidemic. With one or two exceptions, all the persons attacked were of advanced age, and sufferers also from chronic disease of one kind or another. The disease had attacked a number of these persons in the first instance almost concurrently, although they were at that time distributed over several different sick wards. Of these, the female wards are in direct communication with the main building, while the male sick wards, on the other hand, are isolated from it. There is thus, ordinarily speaking, no communication between these two sets of wards, excepting that the nurses on duty in either block necessarily meet, from time to time, in their mess-room or in the surgery. As in former outbreaks in other Poor-law infirmaries, I was able to eliminate irritation of the skin due to soap, to coarse body clothing, and to newly-dyed and unwashed bedding from having had concern with the outbreak. As far as I was able to learn, there existed no possibility of infection having been brought personally to the patients from outside the institution. The sanitary surroundings of the patients, too, were very similar in all the different wards. Only when the question of diet came to be considered did there appear a basis whereon distinction could be made between the circumstances of those who had suffered attack and those who had escaped the disease.

On going carefully into this subject, it appeared that of the various articles of food and drink contained in the dietaries of the various inmates of the institution, only two were in common use among all the persons who had suffered attack, namely milk and bread. The bread, baked on the premises, and believed to be of good quality, had been, however, supplied equally to all the inmates of the institution, whereas the milk had been (with the exception of the small amount supplied in tea) only served to the patients in the various sick wards. It is true that two cases of the disease occurred among the more or less able-bodied inmates of the house proper, into whose diet milk does not enter; but, on fuller and detailed inquiry, it was found in each instance that these particular persons had been consuming a certain amount of milk. One, a man named H—, who had been employed each day to carry the supply of milk to the female side of the building, had not only received some from the nurse each day for his trouble, but had, he confessed, from time to time abstracted a still further portion. The other case, a woman named B—, who had been on No. 2 dietary,* had also, I found, been receiving a special allowance of milk to the extent of one pint a day. With the exception of these two, no case occurred from first to last among those persons living in any part of the workhouse other than the sick wards. On inquiry of the master, I learned that in April, when the epidemic commenced, the contractors for the milk supply were Messrs. A—, the same firm which had been supplying the other Poor-law institutions on which I have reported in connexion with former outbreaks of a similar character. I further learnt that the contract with this firm dated from the previous quarter-day. Their milk had, however, actually been supplied to the workhouse since March 31st only, previous to which date milk had been

* See Appendix.



obtained from Mr. H——, a local dealer. One of the nurses informed me also that a day or two after the new contract had come into force the milk supplied to her ward had, she noticed, a peculiar smell, although in other respects she had not considered it of bad quality. So peculiar indeed had been the smell of the milk at this particular time, she said, that a number of the patients refused to drink it. The matter had not, however, come under the notice of the Master, as no milk is ever returned from a ward; any portion of the day's supply which is unused being thrown down the sink. Examination of the milk was not made at this time, but about a fortnight later a chemical analysis of that supplied in ordinary course to the institution was ordered by the Guardians. No information of importance, however, was thus obtained. No bacteriological examination of the milk was at any time made.

As already stated, the new milk supply came into force on March 31st, and the first case of the disease appeared on April 9th, an interval of about ten days, which coincides with that observed under a similar set of circumstances at the St. George's-in-the-East Infirmary in the previous year, 1894, where also, curiously enough, the same firm had the milk contract.

The time incidence of the disease is shown in the following table, in which the number of cases occurring on any one day are set down opposite that particular date:—

April 9th, 1895	-	-	-	-	1 case.
„ 15th, „	-	-	-	-	2 cases.
„ 20th, „	-	-	-	-	3 „
„ 28th, „	-	-	-	-	1 case.
May 6th, „	-	-	-	-	3 cases.
„ 12th, „	-	-	-	-	15 „
„ 21st, „	-	-	-	-	1 case.
„ 24th, „	-	-	-	-	2 cases.

From this latter date up to the present time, October 1895, no further cases of the disease have been observed.

On the first appearance of cases of this skin disease in the institution, the Medical Officer thought that they might possibly have arisen from want of a sufficient amount of vegetable food in the dietary of the inmates. Accordingly alteration was made in this respect, but nevertheless the disease continued to occur. His further investigation into the circumstances and the dietary of the persons affected having shown that these persons differed from the majority of the inmates solely in the fact that in their dietary was included a not inconsiderable quantity of milk, whereas persons not in the infirmary received a trivial quantity only in their tea, the Medical Officer made a note of this in his report book for the information of the Guardians, and at the same time arranged with the Master that the contractor's milk should not for a time be supplied to the inmates. Accordingly on May 24th the Master cut down the supply from Messrs. A——, the contractors, from an average of 79 quarts to 22 quarts per diem, and ordered 20 quarts from a local dealer. None of Messrs. A——'s milk, however, was now used in the establishment, the whole of it being given to the pigs; the deficiency being met by the use of condensed milk. This state of affairs continued until June 9th, on which day, as he had received no instructions from the Guardians, the Master again commenced the use of the contractors' milk in the institution, and two days later, on June 11th, he wrote to the local milkman above referred to to terminate the arrangement made with him.

It was on this same day, June 11th, that I paid my first visit to the institution, and obtained the information set out above. As the result of my own investigation of the matter I came to the conclusion, as I have already stated in this report, that good reason existed for suspecting that the milk supplied by the contractors had indeed, in some way or other, been concerned in the outbreak of epidemic skin disease in the workhouse. This being so, I demurred to any new experiment being made on the inmates, however interesting the results of such experiment might promise to be from an etiological or pathological point of view. At my suggestion therefore the

Master immediately made arrangements for all the milk to be obtained from a local dealer; and although, without instructions from the Guardians, he was unable to stop the contract supply altogether, he wrote to Messrs. A—— to send only 4 quarts of milk a day, which amount, as had been the case before with a larger quantity, was administered, as he afterwards informed me, to the pigs.

In due course the Guardians were informed of this arrangement, and eventually they, with the consent of the Local Government Board, terminated Messrs. A——'s contract as from the 10th August 1895; and without remonstrance on the part of the contractors.

The last two cases of the skin disease which occurred at this institution broke out on May 24th, the day on which use of the milk from Messrs. A—— was, as I have said, discontinued. Whether there was relationship of effect and cause between these two circumstances, cessation of the outbreak and discontinuance of Messrs. A——'s milk, it is of course extremely difficult to say; the more since it is impossible to affirm that the epidemic was not, by this date, already on the wane.

To sum up:—In all, 92 persons, into whose diet milk, as such, entered, were each in receipt of a daily allowance to the extent of one pint or more a day, and of these 92 persons 28 are known to have suffered attack by the disease.* Of the remaining 66 persons, making up with the 92 the total of 158, in the institution (excluding members of the staff), only two had an allowance of milk, other than the small quantity given in tea, and these two persons were alone of the other inmates affected. Although not condemned by chemical analysis, the milk supplied by Messrs. A—— is stated to have had a peculiar smell which was specially noticeable a few days after their contract came into force, and on microscopic examination specimens of it showed, according to Dr. Gardner, the Assistant Medical Officer of the institution, in addition to the fat globules and a few epithelial scales, "certain groups of granular matter, blood-red in colour; nucleated corpuscles answering to the description of pus cells, and two different kinds of organisms, one rod-shaped and jointed, the other occurring as cocci and also united to form chains." As, however, this examination was made on May 21st, little stress can be laid on it as bearing on the condition of the milk just previous to the time at which the first cases of the disease made their appearance.

S. MONCKTON COPEMAN.

October 1895.

* In addition to these cases, however, there were, as I afterwards learnt from Dr. Collyer, a number of inmates of the female sick wards (14 in all) who, during the period at which the epidemic was at its height, suffered from irritation of the skin, with sensation of heat and tingling, accompanied by the gastric symptoms; symptoms, that is, by which the epidemic skin disease is usually ushered in. At no period, however, of the malady did these persons exhibit obvious rash. Twelve of these cases occurred in the wards of which Nurse Lake was in charge, the remaining two in Nurse Clarke's wards. It is impossible to give the exact dates on which these persons first exhibited the symptoms in question, but they all came under notice between May 6th and 12th, 1895. At this time they were all, without exception, on a dietary which included milk.

These anomalous cases correspond very closely in character with doubtful cases, which I have described in a former report as having occurred at St. George-in-the-East Infirmary during the prevalence in that institution of an outbreak of epidemic skin disease.

APPENDIX.

ENFIELD WORKHOUSE.

CASES of EPIDEMIC SKIN DISEASE.

Name.	Age.	Date of Admission to Sick Ward.	Disease.	Diet.	Extras.
B., Eliza - -	35	21.10.94	Debility - - -	2	1 pint milk.
R., Elizabeth - -	71	24.4.90	Senectus - - -	2	" " 1 egg.
W., Sarah - -	70	12.8.93	Ulcer - - -	2	" " "
L., Lydia - -	66	25.3.94	Struma - - -	2	" " 1 egg, 1 pint porter, 1 lemon.
W., Louisa - -	37	21.5.93	Debility - - -	3	—
L., Cecilia - -	53	20.10.94	" - - -	2	1 pint porter.
F., Sarah - -	85	11.11.94	Lumbago - - -	2	" milk, 1 egg, 1 lemon.
Br., Harriet - -	68	24.2.93	Eczema - - -	2	1 pint porter.
M., Susan - -	86	1.7.93	Senectus - - -	6	" milk.
L., F. - -	77	11.10.93	" - - -	2	" " $\frac{1}{2}$ porter.
W., Hannah - -	71	25.3.94	Debility - - -	2	1 pint milk, $\frac{1}{2}$ porter.
W., Ellen - -	77	18.11.94	Mental - - -	2	1 pint milk.
B., Harriet - -	80	4.1.95	Bronchitis - - -	6	" "
H., Benjamin - -	68	27.1.95	Debility - - -	1	1 pint porter.
E., F. - -	80	27.7.91	Senectus - - -	6	1 pint milk.
F., Isaac - -	77	12.7.93	Epilepsy - - -	2	" "
Gr., Samuel - -	71	3.4.92	Gout - - -	2	" " 1 pint porter.
Gf., Jesse - -	72	10.4.93	Rheumatism - - -	2	" "
G., George - -	76	23.3.94	Senectus - - -	2	" "
A., John - -	79	19.9.94	" - - -	3	—
C., Alfred - -	77	27.1.95	Facial paralysis - - -	2	1 pint milk.
L., Robert - -	71	12.2.95	Debility - - -	2	" "
N., William - -	75	18.2.95	" - - -	2	" "
G., Thomas - -	64	26.2.95	Influenza - - -	3	—
A., George - -	79	3.3.95	" - - -	2	1 pint milk.
M., James - -	61	23.4.95	Fracture - - -	2	" "
C., Louisa - -	74	12.5.95	Senectus - - -	2	" "
E., Thomas - -	86	24.5.95	" - - -	3	1 pint porter.

TABLE I.—Under care of NURSE LAKE. (Females.)

Name.	Date of Eruption.	Diet at same Period.	Ward.
L., Lydia - -	April 9th - - -	No. 2 and milk -	13
F., Sarah - -	" 20th - - -	" 6 " 1 egg -	13
W., Louisa - -	" 20th - - -	" 3 " - -	13
B., Eliza - -	" 20th - - -	" 2 " - -	Body of House.
R., Elizabeth - -	May 6th - - -	" 2 " 1 egg -	15
W., Sarah - -	" 6th - - -	" 6 " - -	13
L., Cecilia - -	" 12th - - -	" 2 " porter -	15

TABLE II.—Under care of NURSE CLARKE. (Females.)

Name.	Date of Eruption.	Diet at same Period.	Ward.
B., Harriet - -	May 6th - - -	No. 6 and milk -	9
Br., Harriet - -	" 12th - - -	" 2 " porter -	11
C., Louisa - -	" 12th - - -	" 2 " - -	7
W., Ellen - -	" 12th - - -	" 2 " - -	11
L., Frances - -	" 12th - - -	" 2 " - -	11
M., Susan - -	" 12th - - -	" 6 " - -	7
W., Hannah - -	" 21st - - -	" 2 " - -	11

TABLE III.—Under care of NURSE STANTON. (Males.)

Name.	Date of Eruption.	Diet at same Period.	Ward.
N., William -	April 15th -	No. 2 and milk -	32
L., Robert -	" 15th -	" 2 " -	26
Gf., Jesse -	" 28th -	" 2 " -	26
A., John -	May 12th -	" 3 " -	33
M., James -	" 12th -	" 2 " -	32
E., Frank -	" 12th -	" 6 " -	27
G., George -	" 12th -	" 2 " -	27
Gr., Samuel -	" 12th -	" 2 " porter -	33
F., Isaac -	" 12th -	" 2 " -	27
A., George -	" 12th -	" 2 " -	33
G., Thomas -	" 12th -	" 2 " -	33
C., Alfred -	" 12th -	" 2 " -	26
H., Benjamin -	" 24th -	" 1 " -	Body of House.
E., Thomas -	" 24th -	" 3 porter -	26

ENFIELD WORKHOUSE.

DIETARY for the SICK, as per MEDICAL RELIEF BOOK.

June 1895.

No. 1.—House Diet, being the ordinary diet for paupers in the workhouse.

No. 2. Full Diet.	BREAKFAST.			DINNER.			SUPPER.		
	Bread.	Tea.	Butter or Dripping.	Bread.	Meat.	Vegetables.	Bread.	Tea.	Butter or Dripping.
	Ozs.	Pints.	Oz.	Ozs.	Ozs.	Ozs.	Ozs.	Pints.	Oz.
Males -	6	1	$\frac{1}{2}$	3	5	8	5	1	$\frac{1}{2}$
Females -	5	1	$\frac{1}{2}$	3	4	8	4	1	$\frac{1}{2}$

No. 3. Low Diet.	BREAKFAST.			DINNER.			SUPPER.		
	Bread.	Tea.	Butter or Dripping.	Bread.	Beef Tea.	Milk.	Bread.	Tea.	Butter or Dripping.
	Ozs.	Pints.	Oz.	Ozs.	Pints.	Pints.	Ozs.	Pints.	Oz.
Males -	6	1	$\frac{1}{2}$	4	1	1	6	1	$\frac{1}{2}$
Females -	5	1	$\frac{1}{2}$	3	1	1	5	1	$\frac{1}{2}$

No. 4. Convalescent Diet.	BREAKFAST.			DINNER.				SUPPER.		
	Bread.	Tea.	Butter or Dripping.	Bread.	Fish or Meat.	Vegetables.		Bread.	Tea.	Butter or Dripping.
	Ozs.	Pints.	Oz.	Ozs.	Ozs.	Ozs.	Ozs.	Ozs.	Pints.	Oz.
Males -	6	1	$\frac{1}{2}$	4	12	5	8	5	1	$\frac{1}{2}$
Females -	5	1	$\frac{1}{2}$	3	12	4	8	4	1	$\frac{1}{2}$

No. 5.—The same as No. 4, with the exception of having a chop for dinner.

No. 6.			BREAKFAST.			DINNER.			SUPPER.		
			Bread.	Tea.	Butter or Dripping.	Bread.	Beef Tea.	*Rice, Tapioca, or Sago Pudding.	Bread.	Tea.	Butter or Dripping.
			Ozs.	Pints.	Oz.	Ozs.	Pint.	lb.	Ozs.	Pints.	Oz.
Males	.	-	5	1	$\frac{1}{2}$	3	$\frac{1}{2}$	$\frac{1}{2}$	4	1	$\frac{1}{2}$
Females	-	-	4	1	$\frac{1}{2}$	2	$\frac{1}{2}$	$\frac{1}{2}$	3	1	$\frac{1}{2}$

* Made as follows :—One oz. rice, tapioca, or sago, one egg, $\frac{1}{2}$ -oz. sugar, $\frac{1}{2}$ -pint milk.

